AMSAT News Service Weekly Bulletins
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Ed. Note - Getting this bulletin out a little earlier than usual because it contains information about Thursday's launch.

AMSAT NEWS SERVICE
ANS-337

ANS is a free, weekly, news and information service of AMSAT North America,The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:

ans-editor@amsat.org

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SB SAT @ AMSAT $ANS-337.01
Unique Donation Opportunity Through The Pension Protection Act

AMSAT News Service Bulletin 337.01
 From AMSAT HQ SILVER SPRING, MD.
November 26, 2006
To All RADIO AMATEURS
BID: $ANS-337.01

Recent legislation passed by Congress and signed by President Bush can help AMSAT raise the funds needed to build Eagle. The law, called the Pension Protection Act (PPA), includes a provision enabling AMSAT to raise substantially more money than might have been previously possible.
  However, time is short to take full advantage of this unique opportunity.

Serious construction work must be funded this year to have Eagle ready to orbit by the target of 2009.

Basically, here's the story on how the new law can help Eagle fly!

The PPA provides that U.S. taxpayers with IRAs who have reached the age of 70-1/2, may contribute to qualified charities, part or all (up to $100,000 per year or $200,000 for married couples filing jointly), of the money they must annually withdraw from their IRAs.

Thus, many AMSAT members and other supporters of the amateur radio space program have a marvelous opportunity to keep the Eagle project on track.

If you must withdraw a certain amount from your IRA each year, there is a big advantage to making such withdrawals as direct contributions to AMSAT rather than merely receiving the distributions and then contributing in the usual manner. Under PPA, the amount you contribute directly is NOT counted as income and thus may put you into a lower tax bracket. It may also reduce the percentage of your Social Security

income subject to taxation.

Key provisions of the new legislation to keep in mind:

1. Donors must hold either a conventional or Roth IRA.

2. Donors must be at least 70-1/2 years of age.

3. Contributions must be made directly from the IRA to the charitable organization not to a donor- advised fund, private foundation, gift annuity or trust.

4. Donations may be made this year and next only, and must be made by December 31, 2006 and December 31, 2007.

5. The maximum amount a contributor may donate each year is $100,000.

6. Direct contributions to qualified charities from IRAs, in accordance with the PPA provisions, are NOT counted as taxable income.

If you are 70-1/2 or older and have an IRA, you are in a position to take advantage of this potential windfall for the Eagle project. AMSAT urges you to first check with your tax advisor for specifics regarding your individual situation, then ask your IRA custodian to transfer to AMSAT part or all of what you are required to withdraw. Be sure to have this transfer completed before December 31st.

Let's all of us do our part to get Eagle into orbit.

* Have your IRA custodian call the AMSAT office to get information on how to transfer your contribution. The number 301-589-6062. Office hours are 10 AM to 6 PM EST.

[ANS thanks BIll, W3XO, for the above information]

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SB SAT @ AMSAT $ANS-337.02
UK Colloquium Dates Set

AMSAT News Service Bulletin 337.02
 From AMSAT HQ SILVER SPRING, MD.
December 3, 2006
To All RADIO AMATEURS
BID: $ANS-337.02

  Please make a note in your diaries, etc The dates for the 2007 AMSAT-UK Colloquium are 20 through 22 July 2007. We are holding it a week earlier than normal to avoid clashing with the Central States VHF Event. Venue is to be the University of Surrey, as per previous years.

   I hope that lots of you from the other side of the Pond will be able to make it!

73
Jim G3WGM
Hon Sec AMSAT-UK

[ANS thanks Jim, G3WGM, for the above information]

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SB SAT @ AMSAT $ANS-337.03
Genesat-1 Launch Information

AMSAT News Service Bulletin 337.03
 From AMSAT HQ SILVER SPRING, MD.
December 3, 2006
To All RADIO AMATEURS
BID: $ANS-337.03

GeneSat-1 Launch Planned for December 11

A Star is Flown
GeneSat-1 will launch from the Mid-Atlantic Regional Spaceport (MARS) at NASA Wallops Flight Facility on December 11, 2006, about 7:00am EST. It will go into orbit as a secondary payload aboard a Minotaur launch vehicle. GeneSat-1 is a 10 x 10 x 30 cm. spacecraft, which will conduct a cellular biology technology demonstration.

Of particular interest to the amateur radio satellite community, is the GeneSat-1 beacon. Operating at 437.075 MHz FM, the beacon sends an AX.25 packet every 5 seconds; the packet contains data about the spacecraft systems operation. The beacon will initiate transmission as soon as the spacecraft is deployed from its carrier on the 4th stage of the launch vehicle.

The mission website at http://www.genesat1.org will be fully operational as of December 5; look there for general mission and spacecraft information, for how to contact GeneSat Mission Operations, and for the latest orbit data and other information needed to work the GeneSat-1 beacon.

Let The Games Begin
To foster interest in the amateur community, and to support amateur radio and space technology outreach to student groups, the GeneSat Mission Team is sponsoring a contest, with entries made by uploading packets received onto the mission website. Recognition and awards will be made as follows:

Grand Prize: A radio station set up for satellite tracking! The rig will be donated by the Silicon Valley Center for Robotic Exploration and Space Technology (CREST) at NASA Research Park to the college or university of the winner's choice. The honor of choosing the recipient school goes to the station that logs 12 or more data packets each (about 1 minute's worth of listening) from the greatest number of satellite passes during the experiment.

The recipient school must be approved by CREST management, based on demonstration of suitable infrastructure and licensed amateur(s) available to operate and maintain the station, and available connectivity from CREST for remote support and operation. The station will be installed with the cooperation of CREST staff. The winners also will receive a commemorative plaque for station team members and pictures and recognition on the GeneSat-1 website. In case of a tie the station with earliest initial packet submittal will win the right to designate the recipient school.

First Contact Prize: The station submitting the first packet after initiation of transmission will receive the First Contact Prize. They will receive a commemorative plaque and mission pins for station team members and pictures and recognition on the mission website.

The First 20 stations to post packets will receive mission pins and a certificate of recognition from the GeneSat Mission Operations Director.

All Contestants who submit one or more packets will receive an

electronic QSL card from the mission web site upon submission of data.

[ANS thanks Mike, KE7EGC and the GeneSat-1 team for the above information]

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SB SAT @ AMSAT $ANS-337.04
ARISS Status - December 3, 2006

AMSAT News Service Bulletin 337.04
From AMSAT HQ SILVER SPRING, MD.
December 3, 2006
To All RADIO AMATEURS
BID: $ANS-337.04

Amateur Radio on the International Space Station (ARISS) Status Report
November 27, 2006

1. Mannheim Museum Contact Successful

On Monday, November 20, students attending the Landesmuseum fuer Technik und Arbeit (Mannheim Museum) in Mannheim, Germany, for the opening of its space exhibition, experienced an amateur radio contact with astronaut Thomas Reiter, DF4TR. An audience of two hundred students, ages 12-20, watched as 13 students asked thirteen questions. Also present was former ESA astronaut Ernst Messerschmid, DG2KM, who displayed pictures of Thomas' training and answered questions from the audience.

Telebridge station VK5ZAI in Australia assisted in the event. The audio was fed into the EchoLink servers and received 22 connections from12 countries, including 1 repeater. Three connections were made to the Internet Radio Linking Project (IRLP) Discovery Reflector 9010, and 15 listened to the Shoutcast audio stream on the www.discoveryreflector.ca website. The audio was also webcast, courtesy of Verizon Conferencing.

2. Canadian School Contact, a Success

Centre Hastings Secondary School experienced a successful contact with the ISS via amateur radio. On November 20, ten students posed 22 questions to Michael Lopez-Alegria, KE5GTK, in front of an audience of 800. The Ottawa ARISS team provided radio equipment for the contact and gave a presentation to the students. Local radio and newspapers covered the event and media students from the local college and university attended. Dignitaries making an appearance included a federal member of the Canadian Parliament, an Ontario Member of the Provincial Parliament, and local officials from the Township and School Board including Trustees and directors. The school webcasted the event on www.hpedsb.on.ca. Audio was fed to EchoLink servers and Internet Radio Linking Project (IRLP) Discovery Reflector 9010. EchoLink received 16 connections (1 repeater included) from 9 countries, and 5 connections were made to the IRLP server 9010 from Canada and Japan. Audio was also available through Shoutcast on the website www.discoveryreflector.ca which received 26 connections.

3. Cosmonaut Active on Voice

Mikhail Tyruin, RZ3FT, has been active on voice. He has been using the ISS Ham radio equipment to make general contacts with his friends in Canada.

4. Astronaut Training Status

On November 20, Christer Fuglesang, KE5CGR/SA0AFS, attended an amateur

radio session at JSC which provided him with user level training on the Kenwood radio so that he will be prepared to perform a school contact with students in Sweden during his STS-116 mission. He was given instructions on manual configuration as well as normal operations of the radio.

5. ARISS International Team Meeting Held

The ARISS International Team held its monthly teleconference on Tuesday, November 21. SuitSat-2's design and progress were reported on. Updates were given on the Kenwood radio status and SuitSat-1 certificates. Minutes have been posted on the ARISS website. See: http://www.rac.ca/ariss/arisstel2006-11-21.htm

[ANS thanks Carol, KB3LKI for the above information]

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SB SAT @ AMSAT $ANS-337.05
STS-116 Launch Includes Cubesats

AMSAT News Service Bulletin 337.05
From AMSAT HQ SILVER SPRING, MD.
December 3, 2006
To All RADIO AMATEURS
BID: $ANS-337.05

December 7 STS-116 Launch Includes Three Amateur Satellites

Space Shuttle Discovery is scheduled for launch on December 7 at 9:35 PM EST (UTC-5). During the 12-day mission and three spacewalks, the crew will work closely with flight controllers at NASA's Johnson Space Center, Houston, to install a new segment of the station's girder-like truss and activate the station's permanent, complex power and cooling systems.

The Shuttle will also carry to orbit three new satellites, RAFT-1, MARSCOM and ANDE, designed, built, and tested by the Midshipmen of the US Naval Academy's Satellite Laboratory in Annapolis, Maryland.

The primary mission of the RAFT satellite is tied to the calibration of the US Navy Space Surveillance Radar which is the primary source of ALL satellite tracking data for ALL spacecraft in the USA. Data from this radar is what helps generate the Keplarian Elements used by all Amateur Satellites operators.

The secondary mission of RAFT and MARScom are to provide packet digital communications relay for mobile units to transmit their GPS coordinates and messages via the satellites. This is a continuation of the PCsat, PCSAT2 and ARISS missions. The downlink is received by a global system of volunteer ground stations that feed the http://pcsat.aprs.org live web page.

The primary limitation on single channel LEO satellite communications is the congestion on the uplink. The RAFT Packet-to-Voice transponder solves this problem by compressing the uplink into a single 1 second burst per station, and then expanding it to voice for the FM downlink. This way, students with nothing but a scanner receiver can hear all of the downlink communications (voice) yet the uplinking stations have a very low probabilty of collision due to the short duration of the uplink. A voice synthesizer converts the packet to voice.

ANDE was developed by the Naval Research labs as an "Atmospheric Neutral Density Experiment" to measure the decay from orbit of a perfectly spher

ical 18" ball. Hearing that it was empty, the Naval Academy under the mentoring of Bob Bruninga, WB4APR, proposed an amateur radio transponder for the inside.

There can be no external antennas and no solar panels or anything that would disturb the aerodynamic performance of the very smooth sphere. The spherical satellite is split in half with an insulator and uses the space frame as the antenna for the 2 meter system. There are 112 Lithinum primary "D" cells inside the sphere to power it for a year.

To keep the current drain to a minimum, the ANDE comms payload sleeps 90% of the time, only waking up once every 16 seconds to listen for packets. Hearing none, it goes back to sleep to convserve power. If packets are heard, then it remains awake and serves as an APRS packet digipeater until 1 minute after the last packet. In addition, ANDE has a voice synthesizer and can speak packets addressed to it.

The telemetry from the satellite will be of a similar form to that of PCSAT and PCSAT2 and will be distributed by the APRS-IS network. Dave, G4DPZ has been working on the telemetry web site. Details of the URL will be published after launch.

The RAFT-1 and ANDE satellite downlinks will be 145.825 MHz. The MARS frequencies used by MARSCOM are on Navy-Marine Corps MARS frequencies.

For full technical details please refer to:
http://www.ew.usna.edu/%7Ebruninga/ande-raft-ops.html

[ANS thanks Bob, WB4APR, and the US Naval Academy Satellite Laboratory for the above information]

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SB SAT @ AMSAT $ANS-337.06
SKN In memory of K7RR

AMSAT News Service Bulletin 337.06
From AMSAT HQ SILVER SPRING, MD.
December 3, 2006
To All RADIO AMATEURS
BID: $ANS-337.06

SKN on OSCAR 2007 TO BE IN MEMORY OF K7RR

All radio amateurs, worldwide, are cordially invited to participate in Straight Key Night on OSCAR 2007. This year, the event is dedicated to the memory of Cliff Buttschardt, K7RR. Cliff was an enthusiastic and longtime SKN participant on both OSCAR and HF, as well as a perennial Best Fist winner. He will be sorely missed.

Participating in SKN on OSCAR 2007 is easy. No rules, no scoring and no need to send in a log. Just operate CW through any OSCAR etween 0000 and 2400 UTC on 1 January 2007, using a straight hand key.

In keeping with the friendly nature of this event, all participants are encouraged to nominate someone they worked for "Best Fist." Your nominee need not have the best fist of those you heard, just of those you worked. Please send your nomination to w2rs@amsat.org. A list of those nominated will appear in ANS and The AMSAT Journal.

CU SKN!

73,

Ray W2RS

[ANS thanks Ray, W2RS, for the above information]

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In addition to regular membership, AMSAT offers membership in the
President's Club. Members of the President's Club, as sustaining donors
to AMSAT Project Funds, will be eligible to receive additional benefits.
Application forms are available from the AMSAT Office.

73, This week's ANS Editor,
Dee Interdonato, NB2F